Table 8. Total, mean, and median of annual expenditures for maintenance/repair (M/R) of academic research instruments, and percent of aggregate purchase price, by detailed type of instrument: 1993

Detailed type of instrument	Annual expenditures for M/R (dollars in thousands)	Mean (dollars)	Median (dollars)	Annual M/R as a percent of aggregate purchase price
Total, all instruments	$207,871	$3,378	$1,200	4.1%
Computers and data handling instruments	33,954	2,852	1,200	3.0
Computers/components costing:				
$1,000,000 and over	1,966	37,382	14,742	.6
$500,000 - $999,999	4,891	44,310	20,000	6.5
$50,000 - $499,999	15,525	3,567	2,200	3.3
$20,000 - $49,999	11,572	1,566	500	5.0
Chromatographs and spectrometers	33,438	2,425	2,000	2.8
Chromatographs and elemental analyzers	6,959	1,585	1,000	3.6
Electron/auger/ion scattering	1,355	4,044	2,500	1.8
UV/visible/infrared spectrophotometer	2,788	919	500	2.0
NMR/EPR spectrometer	7,605	5,777	4,000	2.7
Xray diffraction systems	3,758	4,053	3,000	2.7
Other spectroscopy instruments	10,972	2,899	2,000	2.9
Microscopy instruments	20,089	3,589	1,000	3.7
Electron microscopes	14,731	8,332	9,000	4.3
Other microscopy instruments	5,358	1,399	300	2.6
Bioanalytical instruments	20,194	1,979	1,475	4.3
Cell sorters/counters, cytometers	1,246	4,837	4,000	3.4
Centrifuges and accessories	8,229	1,609	1,300	4.2
DNA/protein synthesizers/sequencers/ analyzers	5,999	4,638	2,765	5.8
Growth/environmental chambers	1,048	1,491	1,000	2.2
Scintillation/gamma radiation/counters/ detectors	3,671	1,294	1,000	4.2
Other instruments	100,196	5,001	1,000	5.8
Electronics instruments (cameras,etc)	1,926	745	0	1.8
Temperature/pressure control/ measurement instruments	6,432	3,128	1,000	3.8
Lasers and optical instruments	8,801	2,014	1,000	2.9
Robots, manufacturing machines	1,452	1,458	200	1.4
Telescopes/astronomical	2,472	8,654	2,000	2.8
Nuclear reactors/nuclear science instrument systems	669	8,576	5,000	2.2
Research vessels/planes/helicopters	1,135	36,737	10,000	4.6
Wind/wave/water/shock tunnels	619	S	S	S
Molecular/electron/ion beam systems	39,996	108,501	6,000	35.3
Major prototype systems	11,772	15,530	1,000	8.2
Other, not elsewhere classified	24,923	2,955	1,000	3.8

NOTES: Data in this table were not collected for supersystems, which are large, integrated instrumentation systems/facilities generally with an aggregate purchase price of $1 million or more.

Because of rounding, details may not add to totals.

KEY: S = fewer than 10 cases for analysis

SOURCE: National Science Foundation/SRS, Survey of Academic Research Instruments and Instrumentation Needs: 1993